



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,986	07/05/2007	Joseph Lanzarotta	P03040US2A	7510
48985 7590 01/14/2010 BRIDGESTONE AMERICAS, INC. 1200 FIRESTONE PARKWAY AKRON, OH 44317				
EXAMINER CHEUNG, WILLIAM K				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
01/14/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

iplawpat@bfusa.com

Office Action Summary

Application No.

10/567,986

Applicant(s)

LANZAROTTA ET AL.

Examiner

WILLIAM K. CHEUNG

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/10/2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. In view of the amendment filed November 10, 2009, new claims 14-20 have been added. Claims 1-20 are pending. The examiner acknowledges the English machine translation for Bruck et al. (DE 3501 697) filed in the IDS of November 10, 2009. The examiner also have included the manually translated English translation for Bruck et al. (DE 3501 697) by the PTO staff of the translation department.
2. In view of the argument filed November 10, 2009, the rejection of claim 13 under 35 U.S.C. 112, first paragraph, is withdrawn.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 14 (line 1), claim 19 (line 1-2), the recitations "antidegradant comprises a wax" is considered new matter since the originally filed specification fail to support that the claimed antidegradant comprises a wax is part of the originally filed invention.

5. Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In light of MPEP 2173.05(i), any claim containing a negative limitation which does not have basis in the original disclosure should be rejected under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement. Since applicants' original disclosure does not have any basis for the negative limitation "exclusive of an alkali metal salt of an alkylsulphonic or alkylsulphuric acie" as claimed in claim 16, the rejection set forth under 35 U.S.C. 112, first paragraph is proper.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-3, 11-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 (line 6), claim 18 (line 2), claim 20 (line 1), the recitation "antidegradants" is considered indefinite. What is it or what types of materials are considered antidegradants?

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-7, 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Bruck et al. (DE 3501 697).

1. (Currently Amended) A rubber composition comprising
- a. an elastomer selected from the group consisting of natural rubber, polyisoprene rubber, styrene butadiene rubber, polybutadiene rubber, butyl rubber, halobutyl rubber, ethylene propylene rubber, crosslinked polyethylene rubber, neoprenes, chlorinated polyethylene rubbers, silicone rubbers, thermoplastic rubber and mixtures thereof;
- b. one or more antidegradants; and
- c. surfactant containing a thio functionality.

4. (Previously Presented) An elastomer based rubber composition comprising per 100 parts of elastomer, about 0.02-10 parts of a surfactant containing a thio functionality.

5. (Currently Amended) An elastomer based rubber composition comprising per 100 parts of elastomer, about 0.02-10 parts of ~~an~~ a thioether surfactant.

Bruck et al. disclose a rubber composition which comprises (A)100 parts by weight of a mixture of butadiene-acrylonitrile copolymer with different acrylonitrile content and a terpolymer of ethylene, propylene, and a diene (ethylidenenorbornene or

Art Unit: 1796

hexa-1,4-diene) and (B)10 parts by weight of an ether-thioether such as Vulkanol 85® as described in example 1. Applicants' specification seems to indicate that the claimed chemical structure (page 5, line 25-30) is the preferable embodiment, which can be obtained from Bayer Corporation.

Beispiel 1

Dieses Beispiel soll zeigen, daß ein NBR-EPDM-Verschnitt
günstigere Festigkeiten und dynamische Lebensdauer
(De Mattia) aufweist, wenn die NBR-Komponente aus zwei
Nitrilkautschuken mit unterschiedlichem Nitrilgehalt
5 hergestellt worden ist (Angabe in Gew.-Teilen).

	1	2
NBR I	17	-
NBR II	-	60
NBR III	43	-
EPDM I	40	40
Ruß N 330	20	20
Ruß N 762	60	60
ZnO	5	5
Ether-Thioether 1)	10	10
Alkylsulfonsäure- alkylphenylester 2)	10	10
Styrolisiertes Diphenylamin	2	2
Zinksalz des 4- bzw. 5-Methyl- mercaptobenzthiazols	3	3
Stearinsäure	1	1
Ca-Stearat	1	1
Schwefel	1,8	1,8
Benzthiazyl-2-cyclohexyl- sulfenamid	1,2	1,2

1) verwendet wurde Vulkanol 85 der Bayer AG

2) verwendet wurde Vulkanol SF der Bayer AG

Regarding the "functional groups" feature of claim 11, applicants must recognize that the nitrile group of butadiene-acrylonitrile copolymer possess a nitrile functional group.

Regarding the "reinforcing filler" of claim 12, Bruck et al. (page 6, line 13) clearly disclose 5 weight percent of ZnO.

The obtained co-vulcanizates are suitable as pipe coverings, conveyor belt coverings, or drive belts (p.5, 1.4-5). They show a good resistance to ozone (p.3, 1.6 ; p.5, 1.2 : p.10, 1.6). Consequently, the subject-matter of claims 1-7, 11-12 is anticipated.

Applicant's arguments filed November 10, 2009 have been fully considered but they are not persuasive. Applicants argue that Bruck et al. (page 6, Table) may not teach Vulkanol 85 because the footnote may indicate that a precursor for Vulkanol 85 is used. However, the examiner disagrees because whether Vulkanol 85 or its precursor is used, Vulkanol 85 has been taught. Therefore, the examiner has a reasonable basis to maintain the rejection set forth. Further, according to an online German-English Dictionary, "verwendet" means "to use" or "to employ". Therefore, it is unclear on what evidence that applicants are relying on to believe the notion of "precursor", since nowhere in the table indicate, mention, or link to the word "precursor". Therefore, applicants' argument is not persuasive or supported. Applicants must recognize that the claimed invention is a composition, not a process, since Bruck et al. teach the

composition as claimed, the rationale and the evidence set forth for the rejection are adequate.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. Claims 8-10, 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bataille et al. (US 2001/0051677) in view of Bruck et al. (DE 3501 697).

8. (Previously Presented) A vulcanized tire sidewall comprising based on 100 part of elastomer about 0.02-10 parts of a surfactant containing a thio functionality.

9. (Previously Presented) A tire comprising a vulcanized sidewall component comprising a surfactant containing a thio functionality.

10. (Original) A method of forming a film on the exposed surface of vulcanized rubber, comprising;
 - adding about 0.02-10 parts of a surfactant containing a thio functionality to a rubber composition,
 - curing said rubber composition,
 - exposing the cured rubber composition to ozone.

Bataille et al. (page 7, claims 38-39) disclose a tire and the process for making the same, where the side walls of which comprise a vulcanized elastomer, and alkylsulfonic or alkylsulfuric acid (surfactant containing a thio functionality), in an amount of between 0.5 and 10 phr. Bataille et al. (page 2, 0027, Table) clearly teach the use of 1.5 phr of sulfur, 35 phr of natural rubber, and 60 phr of carbon black (fillers). The said process involves the exposing the tire side wall to ambient air having an ozone concentration (for curing) to form a film having a thickness of equal to or greater than 0.5 microns formed on the outer face of the sidewall. Regarding the claimed "antidegradant comprising wax", Bataille et al. (page 1, 0004) disclose the advantage of incorporating waxes into the disclosed composition as a protective coating on the surface. Therefore, motivated by the expectation of success of forming a protective coating on the disclosed composition, it would have been obvious to one of ordinary skill in art to incorporate a wax (or antidegradant) into the composition of Bataille et al. to obtain the antidegradant or wax being claimed. Although Bataille et al. (page 1, 0006) teach that the surface migration of waxes can make the surface dull and gray or even whitish, one of ordinary skill in art recognize and appreciate the value of a protective

coating on the surface over the surface appearance when the surface appearance is not required or desired.

The difference between Bataille et al. and claims 8-10, 12-20 is that Bataille et al. are silent on a thio compound.

Bruck et al. discloses a rubber composition which comprises (A) a rubber and (B) a ether-thioether such as Vulkano185® (example 1). The obtained co-vulcanizates, suitable as pipe coverings, conveyor belt coverings, or drive belts (p.5, 1.4-5), show a good resistance to ozone (page 3, 1.6; page 5, 1.2; page 10, 1.6). Motivated by the expectation developing rubber composition with ozone resistance properties, it would have been obvious to the skilled in the art to incorporate the ether-thioether teachings of Bruck et al. into the rubber composition of Bataille et al. to obtain the invention of claims 8-10, 12-20.

Applicant's arguments filed November 10, 2009 have been fully considered but they are not persuasive. Applicants argue that Bruck et al. fail to teach what Vulkanol 85 is used for, when it was used, and in what amount. However, the examiner disagrees. Regarding applicants' argument on what Vulkanol 85 is used for and when it was used, applicants fail to recognize that the claims as written do not support such argument since the claims as written fail to require "on what Vulkanol 85 is used for and when it was used". Regarding applicants' argument that Bruck et al. fail to teach the amount being claimed, Bruck et al. (page 6, table) clearly teach that 10 parts are used.

Beispiel 1

Dieses Beispiel soll zeigen, daß ein NBR-EPDM-Verschnitt
 günstigere Festigkeiten und dynamische Lebensdauer
 (De Mattia) aufweist, wenn die NBR-Komponente aus zwei
 Nitrilkautschuken mit unterschiedlichem Nitrilgehalt
 5 hergestellt worden ist (Angabe in Gew.-%-Teilen).

	1	2
NBR I	17	-
NBR II	-	60
NBR III	43	-
EPDM I	40	40
Ruß N 330	20	20
Ruß F 762	60	60
ZnO	5	5
Ether-Thioether 1)	10	10
Alkylsulfonsäure- alkylphenylester 2)	10	10
Styrolisiertes Diphenylamin	2	2
Zinksalz des 4- bzw. 5-Methyl- mercaptobenzthiazols	3	3
Stearinsäure	1	1
Ca-Stearat	1	1
Schwefel	1,8	1,8
Benzthiazyl-2-cyclohexyl- sulfensmid	1,2	1,2

1) verwendet wurde Vulkanol 85 der Bayer AG

2) verwendet wurde Vulkanol SF der Bayer AG

Regarding the English translation for DE3501697, applicants must recognize that the reference is listed in applicants' filed PCT report filed February 10, 2006. Applicants should have submitted an IDS form including the references cited in the PCT report timely, along with the English translation when needed.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **WILLIAM K. CHEUNG** whose telephone number is (571)272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William K Cheung/
Primary Examiner, Art Unit 1796

William K. Cheung, Ph. D.
Primary Examiner
December 10, 2009